

Serial No.: 09/135,804
Art Unit : 1764

Docket No. 12388.03

REMARKS

By the present amendment, Applicant proposes to make certain revisions to the specification and amend Claims 1, 11 and 21. Upon entry of the proposed amendment, independent Claims 1, 11 and 21, with Claims 2-10, 12-20 and 22-30 respectively depending therefrom will remain for consideration.

Applicant appreciates the courtesies extended to Applicant's representative during the personal interview held July 18, 2000. The present response summarizes the substance of the interview. At the interview a proposed amendment was presented for discussion. Proposed independent Claims 1, 11 and 21 was amended to change "comprising" to the more exclusive terminology --consisting essentially of--, and to define the inlet and outlet ends of the canister as --having a substantially conical shape--. Further, the proposed amended claims set forth that the catalytic converter element was positioned --immediately adjacent to said inlet end--. Proposed revisions to the specification was also presented.

Arguments were advanced that the proposed amended claims patentably distinguished Applicant's invention over the prior art relied upon of record. While the Examiner indicated that the proposed amendment to the specification appeared to overcome the new matter rejection of record, no agreement was reached as to the patentability of the proposed claimed invention.

Serial No.: 09/135,804
Art Unit : 1764

Docket No. 12388.03

In the recent Office Action the Examiner objected to the specification because of informalities. Applicant has amended the specification at page 21, lines 19, 22 and 26 by including --sound attenuating-- in order to maintain consistency throughout the disclosure. In addition, the Examiner objected to the amendment filed February 15, 2000 under 35 U.S.C. 132 because it introduces new matter. Applicant has deleted the sentences added to page 11, line 14, after "harmless products." Also, the parenthetical dimension "(e.g., 0.010" maximum)" has been deleted at page 17, line 3. Further, the Examiner has rejected Claims 1-30 under 35 U.S.C. § 112, first and second paragraphs, as containing subject matter which was not described in the original specification and as being indefinite. Applicant has cancelled the added limitations in Claim 1, lines 8, 17-18 and 29, as well as the similar limitations of Claims 11 and 21. With respect to the Examiner's rejection of Claims 7, 17 and 27, the "width" refers to the size of each passage through the catalytic converter element, and is clearly demonstrated in Fig. 6 as compared to the Prior Art shown in Fig. 7 (cf. original specification pages 16-19). Likewise, with respect to the Examiner's query as to the meaning of "axially parallel to one another" recited in Claim 11 and where is such shown in the drawings, Applicant directs attention to the original specification, beginning at page 31, along with Figs. 4 and 5. This disclosure sets forth and shows the "axially parallel to one another" resonators of Claim 11. Applicant respectfully submits that Claims

Serial No.: 09/135,804
Art Unit : 1764

Docket No. 12388.03

1-30, as amended, meet the specific requirements of 35 U.S.C. § 112, first and second paragraph.

Applicant will advance arguments hereinbelow to illustrate the manner in which the presently claimed invention is patentably distinguishable from the cited and applied prior art. Reconsideration of the present application is respectfully requested.

In the Final Office Action the Examiner rejected Claims 1, 24, 6, 9, 21, 24-26 and 29 under 35 U.S.C. § 102(b) as being anticipated by Wagner. This rejection is respectfully traversed. Applicant's invention is directed to a combined catalytic converter and resonator for use in internal combustion engine exhaust systems. The combined converter and resonator may be used with or without an additional muffler system. The combined converter and resonator of the presently claimed invention requires the structure *consists essentially* of a canister having an inlet end, a forward portion adjacent to the inlet end, a rearward portion adjacent to the forward portion, an outlet end adjacent said rearward portion. The forward portion has a forward inner diameter, and the rearward portion has a rearward inner diameter. The inlet end includes a conical shape, and the outlet end has a conical shape. At least one catalytic converter element installed within the forward portion of the canister immediately adjacent the inlet end. The catalytic converter element having an outer diameter. Also, the converter element includes a substrate having a plurality of longitudinal passages therethrough, with each of the passages being

Serial No.: 09/135,804
Art Unit : 1764

Docket No. 12388.03

defined by a plurality of substrate walls. The resonator element is installed within the rearward portion of the canister. The resonator element has a hollow core, a forward end, a rearward end, an outer diameter, and a plurality of sound attenuating perforations formed radially therethrough. The outer diameter of the resonator element is smaller than the rearward inner diameter of the canister, thereby defining a sound attenuating plenum therebetween. The inlet end of the canister, the catalytic converter element, the hollow core of the resonator element, and the outlet end of the canister all are axially aligned with one another for providing straight through flow of engine exhaust therethrough.

On the other hand, the catalytic converter and muffler system of Wagner et al. is directed to a catalytic converter and muffler combination device for use diesel internal combustion engines. Eventhough Wagner et al. alludes to the use with gasoline internal combustion engines, Wagner et al. is silent as to how to accomplish this. The device in Wagner et al. has an outer casing, a plurality of resonators, a plurality of impermeable flanges, and a catalytic converter element. The arrangement of these components provide a plurality of chambers or plenums, defined by the casing and flanges (in pairs) surrounding the plurality of resonators. These plenums allow for the expansion of the exhaust gases and engine noises to enter, forming a pressurized "dead-spaces". These dead-spaces utilize the physical phenomenon of harmonic cancellation to attenuate the engine noises. The phenomenon occurs by the virtue

Serial No.: 09/135,804
Art Unit : 1764

Docket No. 12388.03

of pressurized dead-spaces reflecting the noises trapped therein back onto the subsequent engine exhaust gases and noises. In diesel engines this "so-called" back pressure enhances the engine performance by the virtue of the operation of the diesel engine. Consequently, this type of device would not work well with a standard gasoline engine. In addition, the dead-spaces of Wagner et al. do not allow the exhaust gases to exit the device until the engine has been shut down, removing the source of incoming pressure. Upon the removal of the incoming pressure, the back pressure of the dead-space gases pass back through the resonators in order to escape into the atmosphere. Depending upon the diesel engine fuel by-products found in the exhaust gases, once the incoming pressure is removed the trapped dead-space gases may ignite causing a "back-fire". Such back-fires may cause injury to one of more of the muffler, engine, operator and any other persons nearby. Thus, Applicant submits that the patent to Wagner et al. is insufficient as anticipatory reference against the instant claims.

The presence of the conical shape of the inlet end performs a function not present in the Wagner device. The conical inlet renders absolutely no obstructions to the exhaust gases entering into the device. In this manner, Applicant's claimed invention does not cause an initial "cool down" of the exhaust gases from the engine. The conical inlet provides an efficient dispersion due to the adjacency of the inlet end to the converter element. Thus, no

Serial No.: 09/135,804
Art Unit : 1764

Docket No. 12388.03

inlet diffuser assembly, such as is required in the Wagner patent, is used or required in Applicant's claimed invention.

Claims 3, 5, 7, 8, 10-20, 27, 28, and 30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wagner in view of one or more of Munro, Plemons, Jr., Ignoffo, Harris, Berg et al., Lachman et al., and/or Japanese patent document no. 64-12017. This rejection is respectfully traversed. Applicant submits that the plethora of secondary references are insufficient to supplement the apparent deficiencies of the primary reference to Wagner et al. Moreover, there appears no motivation or guidance in the prior art to modify the Wagner et al. muffler in the manner suggested of record by the Examiner. Further, by modifying the muffler disclosed in Wagner et al. as suggested by the Examiner would destroy the functionability and operability of the muffler disclosed in Wagner et al.

"The mere fact that the prior art may be modified as suggested by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification." In re Fritch, 992 F.2d 1260, 23 U.S.P.Q.2d 1730 (Fed. Cir. 1992). Under Section 103(a), there must be some objective teaching in the prior art that would have motivated one of ordinary skill in the art to arrive at the claimed invention as a whole. In re Fine, 5 USPQ2d 1596, 1599-1600 (Fed. Cir. 1988). Applicant respectfully submits that for at least these reasons, proposed amended independent Claim

Serial No.: 09/135,804
Art Unit : 1764

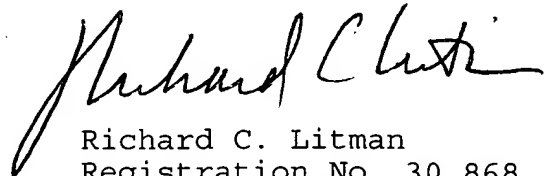
Docket No. 12388.03

1, 11 and 21, along with respective dependent Claims 2-10, 12-20 and 22-30, are allowable over the prior art applied of record.

Applicant submits that the amendments made herein properly respond to the outstanding Final Rejection. These amendments are intended to present claims which clearly define the instant invention over the prior art. This proposed amendment does not raise any new issues that require further consideration or search and is a *bona fide* effort to satisfactorily conclude the prosecution of this application. In the event that an appeal is filed, it is requested that this amendment be entered for purposes of appeal.

Accordingly, it is respectfully requested that the proposed amendment be entered and that this application be favorably considered by the Examiner and passed to issue. If such is not the case, the Examiner is respectfully requested to call Applicant's undersigned attorney at the number given below in an effort to satisfactorily conclude the prosecution of this application.

Respectfully submitted,



Richard C. Litman
Registration No. 30,868
(703) 486-1000

RCL:wse